

NINTH YOUNG RESEARCHERS CONFERENCE MATERIALS SCIENCES AND ENGINEERING

**December 20-22, 2010, Belgrade, Serbia
Serbian Academy of Sciences and Arts, Knez Mihailova 35**



Program and the Book of Abstracts

**Materials Research Society of Serbia,
Institute of Technical Sciences of the
Serbian Academy of Sciences and Arts**

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IV/7

Evaluation compensation of an osteoporotic rat bone with Ca/Co-HAp nanoparticles

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This study examined the role of Ca / Co-HAp nanoparticles on time distance in regeneration of osteoporotic alveolar bone in rats by biochemical blood markers analysis (ALP, Ca, Mg, P) and through histochemical analysis. The research was carried out on female Westar rats, aged 6-8 weeks. The obtained results for the biochemical blood markers showed statistically significant rise. Histological analysis revealed high level reparatory skills of the biocomposite implanted in the bone defect as early as in the mineralized tissues. It can be concluded that Ca/Co-HAp stimulates the regeneration of osteoporotic alveolar bone in tested animals as confirmed by the increased levels of biochemical blood markers and through histochemical analysis. Therefore, it can be concluded that Ca/Co-HAp nanocomposite should be choise material in the osteoconstructive processes in the future.

IV/8

Determination of clindamycin in pig plasma after implantation of poly(D,L-lactide-co-glycolide)/hydroxyapatite/clindamycin core-shell nanosphere by liquid chromatography-tandem mass spectrometry

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Clindamycin was determined in pig plasma by liquid chromatography/tandem mass spectrometry (LC-MS/MS). The multiple reaction monitoring (MRM) mode of precursor-product ion transitions for clindamycin ($m/z=421.1/126.1$) and the internal standard, coffeine ($m/z=192/125$) was used. The samples were prepared by two methods: 0.1% formic acid in methanol and 1.5% trichloacetic acid. The recovery for the two preparation methods at 0.05µg/ml ($n=6$) was found to be for the first 104.3% and for the second method 106.5%, with repeatability RSD 1.1% and RSD 4.34%, respectively. The results of the comparison of the two different preparation methods of samples demonstrated that bought methods were satisfactory.